

CLAIM AMENDMENTS

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (canceled)
8. (canceled)
9. (twice amended) A system for controlled operation of a device propelled by electric motors, said system having:
 - at least a first and a second drive wheel mounted in an axially opposed manner, each of said first and second drive wheels for propelling the device forward and backward;
 - at least a first independent electric motor for propelling the first drive wheel and a second independent electric motor for propelling the second drive wheel;
 - a first and a second push and pull element;
 - at least a first independent control means for the first independent control means for the first independent electric motor and a second independent control means for the second independent electric motor, each control means having:
 - a plurality of sensor means;
 - an independent power amplifier;
 - the sensor means:
 - detecting the mechanical force of pushing and pulling applied to the push and pull elements by a user standing on a floor;
 - transforming said mechanical force into signals indicating degree and direction of the mechanical force;
 - capable of being operated separately so as to power each drive wheel selectively;
 - the independent power amplifier:
 - amplifying the electric signals produced by the sensor means;
 - supplying electric power to the electric motor;

the electrical signals being amplified in accordance with an amplification factor as a function of the device weight;

each drive wheel being propelled in accordance with a torque corresponding to movement ordered by the sensor means;

wherein:

each power amplifier is provided with a feedback circuit that measures a true value of an electric motor current, said motor current being proportional to a torque of the electric motor, the feedback circuit comprising:

a comparator means for comparing,~~by means of a comparator means,~~ a said true value of an electric current fed to the electric motor with a pre-established nominal value of an electric current needed to achieve movement of each drive wheel,

a detecting means for detecting differences detected between the true value and the pre-established value,

a transforming means for transforming said differences into error signals;

an altering means for altering the electric input signals to the power amplifier on the basis of said error signals ~~being altered by the error signals~~, so as to make said power amplifier supply the necessary power to the electric motor so that needed torque needed for producing movement ordered by the sensor means is generated by the electric motor;

~~the degree and direction of the mechanical force of the user on the push and pull elements controls direction and traveling speed of the device for;~~

~~turning the device sideways by applying a force greater on a first push and pull element than on the second push and pull element, so that the first control means makes the first motor rotate at a greater speed than the second motor, and therefore the first wheel rotates more quickly than the second wheel;~~

~~spinning the device by applying a force on a first push and pull element and an opposite force on the second push and pull element, so that the first control means and the second control means make the first and the second motor rotate in opposite directions, and therefore the wheels rotate in opposite directions so as to allow the device to turn in confined spaces.~~

10. (original) A system according to claim 9 wherein each one of the control means further comprises a first preamplifier means for amplifying electric signals produced by the sensor means.
11. (original) A system according to claim 9 wherein the feedback circuit further comprises a second preamplifier means for amplifying error signals.
12. (original) A system according to claim 9 further comprising a connecting element for coupling the push and pull elements, so as to allow a user to act selectively on the first or the second push and pull element by pushing or pulling said connecting element.
13. (original) A system according to claim 12, wherein
the push and pull elements,
the force sensors, and
the connecting element,
are arranged so as to form handle.
14. (original) A system according to claim 12 wherein:
the push and pull elements comprise bands having a first extremity and a second extremity, the first extremity being coupled to the connecting element and the second extremity being held immobile in fasteners;
the force sensors comprise extension-measuring gauges arranged on the bands for detecting a deformation on each band when the connecting element is pushed or pulled.
15. (original) A system according to claim 9 wherein the at least two drive wheels comprises two drive wheels.
16. (original) A system according to claim 9 wherein the device propelled is a mobile X-ray unit.